

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Dany Sylvain

Serial No. TBA

Filed: Herewith

For: **METHOD AND SYSTEM FOR ENABLING COMMUNICATIONS BETWEEN A SWITCHED TELEPHONE NETWORK AND A WIRELESS NETWORK**

Examiner: TBA

Art Unit: TBA

Mail Stop Patent Application

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

PETITION TO MAKE SPECIAL FOR ACCELERATED PROSECUTION

Applicant herein petitions the Director to accelerate examination of the above-identified application as set forth under 37 C.F.R. 1.102(d). A credit card payment form for \$130.00 is enclosed to pay the fee associated with this Petition to Make Special, as required by 37 C.F.R. 1.17(i). If any additional fees are required in association with this petition, the Director is hereby authorized to charge them to Deposit Account 50-1732 and consider this a petition therefor. All claims presented in the originally filed application are directed to a single invention. If it is determined that a restriction requirement is necessary, an election will be made without traverse.

For the claimed invention, a pre-examination search was made under the instruction of Examiner Kenneth Venderpuye of Art Unit 2661, who recommended searching in Class 455 subclasses 432 and 433 and in Class 370 subclasses 328, 352, 353, and 401. Extensive Boolean searching was also conducted using various patent databases. A copy of each of the references being most closely related to the subject matter encompassed by the claims is submitted with the Information Disclosure Statement accompanying the continuation application submitted herewith. Please cite each reference provided herein on the front page of any resultant patent. A detailed discussion of these references follows after a brief summary of the invention.

FOCUS OF CLAIMED INVENTION

The present invention provides a system for enabling communications between a switched telephone network and a wireless network comprising a plurality of Mobile Switching Centers (MSCs). Each MSC is connected by respective gateways to a broadband packet network used for the transfer of bearer traffic between the MSCs, and controls wireless communications

with a respective plurality of wireless transceivers (cellular phones, personal computer with wireless communication capability, etc). The switched telephone network is interconnected by at least one gateway to the broadband packet network for conveying bearer traffic between the wireline network and the broadband packet network. The system comprises a location register and a call manager. The location register is adapted to store, in respect of each wireless transceiver, information identifying the MSC currently controlling communications with the wireless transceiver. The call manager is adapted to query the location register to retrieve the information identifying the MSC currently serving a selected wireless transceiver. The call manager enable a communications path across the broadband packet network between a selected gateway and the MSC.

DISCUSSION OF REFERENCES

U.S. Patent No. 6,330,454 discloses a wireless communication system that interfaces with a Service Control Point (SCP) to provide location information for a serviced mobile unit. The SCP sends a locate request to a Home Location Register (HLR) of the wireless communication system, requesting the location of the serviced mobile unit. The HLR then accesses a serving Mobile Switching Center (MSC), the serving MSC being identified by the HLR as currently servicing the mobile unit. Depending upon the particular constraints of the requested operation by the SCP (e.g., immediate locate request or most recent locate request), the serving MSC either retrieves location information for the mobile unit from its Visitor Location Register (VLR) or sends a page to the mobile unit. The mobile unit responds to the page and, based upon the cell/sector from which the mobile unit responded, the serving MSC determines an approximate location of the mobile unit. With the location information retrieved, the serving MSC then converts the cell/sector identification to longitude and latitude information. The serving MSC may also convert a time-stamp associated with the location information (when the location information was recorded) to a normalized time standard such as Greenwich Standard Time. With this location information determined, the serving MSC provides the information to the requesting SCP. This information may be provided either directly by the serving MSC to the requesting SCP or may be provided via the HLR that receive the request. In converting the cell/sector identification in which the mobile unit was last located, the serving MSC (or other element of the wireless communication system that performs the conversion) provides the most

likely location of the mobile unit within the cell/sector. However, U.S. Patent No. 6,330,454 fails to disclose at least a call manager adapted to obtain information identifying an MSC controlling communications with a selected wireless transceiver from a location register adapted to store, in respect of each wireless transceiver, information identifying a one of the plurality of MSCs controlling communications with the wireless transceiver.

U.S. Patent No. 5,434,854 discloses a system and method for delivering packetized data representing radio signals to and from cell sites, and to and from a destination point via a fast packet network. Each cell site includes an interface for packetizing the radio signals and transmitting the packetized data to its destination. The destination could be a delivery point at a switch connected to the telephone network, which then converts the packetized data into a form usable by the telephone network. Alternatively, the destination point could be another cell site, which then depacketizes the radio signal and retransmits the radio signal to another wireless communication device without connecting to the telephone network. However, U.S. Patent No. 5,434,854 fails to disclose at least a call manager adapted to obtain information identifying an MSC controlling communications with a selected wireless transceiver from a location register adapted to store, in respect of each wireless transceiver, information identifying a one of the plurality of MSCs controlling communications with the wireless transceiver.

U.S. Patent No. 6,282,194 (also European Patent Application No. EP0989771) discloses a transit trunk subnetwork system which is configured to expand the existing capacity for bearer traffic in telephone networks. The disclosed invention incorporates an asynchronous transfer mode subnetwork which is interfaced directly with existing local exchange end offices, access tandems, or combinations thereof. A signal controller is utilized to direct signal messaging across the asynchronous transfer mode subnetwork to set up the movement of bearer traffic across the subnetwork. A network manager is also utilized to control bandwidth availability at the interfaces with the asynchronous transfer mode subnetwork. However, U.S. Patent No. 6,282,194 (also European Patent Application No. EP0989771) fails to disclose at least a call manager adapted to obtain information identifying an MSC controlling communications with a selected wireless transceiver from a location register adapted to store, in respect of each wireless transceiver, information identifying a one of the plurality of MSCs controlling communications with the wireless transceiver.

U.S. Patent No. 6,353,607 discloses a wireless communications system and methods having at least two interconnected mobile switching centers, each coupled to a corresponding media gateway and to an IP network such that the use of circuit connections during inter-MSCs handover is reduced. Speech packets are transmitted between a first MSC and a second MSC over an IP network rather than over the circuit connections. An IP address is used as a transaction identifier which can include the IP address, socket, and/or session number associated with the media gateway for a call. The anchor MSC sends the IP network address that is currently being used for the call to the non-anchor MSC. However, U.S. Patent No. 6,353,607 fails to disclose at least a call manager adapted to obtain information identifying an MSC controlling communications with a selected wireless transceiver from a location register adapted to store, in respect of each wireless transceiver, information identifying a one of the plurality of MSCs controlling communications with the wireless transceiver.

U.S. Patent No. 6,370,385 discloses an improved mobile communication method and network that interconnects mobile switching centers and base station controllers (radio network controllers) and/or base station controllers and base transceiver stations using, at least in part, a Dynamic synchronous Transfer Mode (DTM) type network. The hierarchical relationship between the mobile switching centers, the control stations, and the base stations is controlled by the definition of logical channels within the Dynamic Synchronous Transfer Mode type network. The Dynamic synchronous transfer mode network provides a multi-access scheme that is used to define connectivity on a logical level more or less independently with respect to the underlying physical topology. According to an aspect of the invention, data is transmitted between a plurality of mobile switching centers, base station controller and/or base stations over the same physical DTM network, wherein the hierarchical relationship between the different components physically connected to the same network (MSC, BSC, BTS) is defined on a logical level by the establishment of logical TDM channels over the DTM network. Since the need of providing a hierarchical relationship between the components on a physical level is thereby eliminated, the mobile switching center and the base station controllers may in fact be physically positioned at any desired location as long as access is provided via channels within the DTM network. However, U.S. Patent No 6,370,385 fails to disclose at least a call manager adapted to obtain information identifying an MSC controlling communications with a selected wireless transceiver from a location register adapted to store, in respect of each wireless transceiver, information

identifying a one of the plurality of MSCs controlling communications with the wireless transceiver.

U.S. Patent No. 6,490,451 discloses an improved method and system for providing packet-switched management of switching and handoff functions for a mobile terminal during call setup and user communication phases of a telecommunication session. A radio access network (RAN) including an air-interface base station in communication with the mobile terminal is in communicative contact with a packet-switched core network comprised of a plurality nodes which provide functionality that is equivalent to that of a network of Mobile Switching Centers (MSCs) and Visitor Location Registers (VLRs). A packet-switching backbone network provides communication transport facilities within the core network. Within the core network is a wireless access gateway (WAG) having media channels that provide an interface between the RAN and the core network. An Anchor Packet Gateway (APG) extends the bearer path from the WAG, and hides mobility between WAGs during the user communication phase. A wireless mobility server (WMS) in communicative contact with the WAG and APG serves as a media gateway controller for the WAG and APG, controlling connectivity of the media channels within the WAG and APG. A PSTN Trunking Media Gateway (PTMG) provides connectivity between the core network and the PSTN. A Call Server (CS) in communicative contact with the PTMG and WMS serves as a media gateway controller for the PTMG and WMS, where the WMS presents the appearance of a media gateway to the CS, but in fact functions as a media gateway controller for the WAG and APG. The CS and WMS together present the appearance of a single MSC/VLR to the public cellular or PCS network. However, U.S. Patent No 6,490,451 fails to disclose at least a call manager adapted to obtain information identifying an MSC controlling communications with a selected wireless transceiver from a location register adapted to store, in respect of each wireless transceiver, information identifying a one of the plurality of MSCs controlling communications with the wireless transceiver.

U.S. Patent No. 6,553,227 discloses a wireless communication system that assigns each serviced mobile unit to a serving mobile switching center to minimize mobility management overhead and to equalize loading among a plurality of mobile switching centers. The wireless communication system includes the plurality of mobile switching centers and a base station system which includes a plurality of base station controllers, each of which couples to a plurality

of base stations. A plurality of mobile units served by the system are assigned to the mobile switching centers so that loading is equalized. In one particular construction of the wireless communication system, a dispatching switch couples the base station system to the plurality of mobile switching centers and performs the assignments of the mobile units. In an example of operation, upon attachment of a mobile unit, the dispatching switch determines loading of each of the mobile switching centers. Then, based upon the loading, the dispatching switch assigns the mobile unit to one of the mobile switching centers, the "serving" mobile switching center. However, U.S. Patent No 6,553,227 fails to disclose at least a call manager adapted to obtain information identifying an MSC controlling communications with a selected wireless transceiver from a location register adapted to store, in respect of each wireless transceiver, information identifying a one of the plurality of MSCs controlling communications with the wireless transceiver.

U.S. Patent No. 6,611,532 discloses techniques for implementing Multi-Protocol Label Switching (MPLS) directly in an SS7 protocol stack enable SS7 network layer protocols to interface, via MPLS, with literally any link layer technology. In Figure 7, a wireless telephony system is illustrated. The wireless telephony system comprises a first Mobile Switching Center (MSC), a first home location register (HLR), a first visitor location register (VLR), and a first authentication center (AC). The wireless telephony system further comprises a second MSC, a second HLR, a second VLR, and a second AC. However, U.S. Patent No 6,611,532 fails to disclose at least a call manager adapted to obtain information identifying an MSC controlling communications with a selected wireless transceiver from a location register adapted to store, in respect of each wireless transceiver, information identifying a one of the plurality of MSCs controlling communications with the wireless transceiver.

European Patent Application Publication No. EP0801513 discloses four stages of digital cellular architecture that reuse existing infrastructure and allowing the introduction of data and integrated voice and data services over industry standard platforms. First, a separate ATM-based infrastructure is introduced that supports data services, and a data call control is introduced on industry standard hardware platforms. Second, ATM is also introduced at radio ports and call control functions are migrated to the new ATM-based call control platforms. Third, vocoders are introduced at the digital cellular switch. Fourth, the cellular functions of the legacy cellular switch are phased out and replaced by the ATM-based architecture. However, European Patent

Application Publication No. EP0801513 fails to disclose at least a call manager adapted to obtain information identifying an MSC controlling communications with a selected wireless transceiver from a location register adapted to store, in respect of each wireless transceiver, information identifying a one of the plurality of MSCs controlling communications with the wireless transceiver.

"Handling Mobility in a Wireless ATM Network" by Akyol and Cox discloses a protocol implementation for implementing mobility in an Asynchronous Transfer Mode (ATM) based wireless telecommunications network. Akyol and Cox also disclose a database architecture to support mobility in the ATM-based wireless communications network and a signaling structure needed to support the mobility. However, Akyol and Cox fail to disclose at least a call manager adapted to obtain information identifying an MSC controlling communications with a selected wireless transceiver from a location register adapted to store, in respect of each wireless transceiver, information identifying a one of the plurality of MSCs controlling communications with the wireless transceiver.

Applicant herein respectfully submits this Petition to Make Special to request accelerated prosecution of the application. If there are any issues relating to the petition or to the pending application, the undersigned attorney of record welcomes a telephone conference to resolve these issues in order to have the petition granted and accelerate prosecution of the application.

CERTIFICATE OF EXPRESS MAILING

I hereby certify that this document is being deposited with the United States Postal Service "Express Mail Post Office To Addressee" service under 37 C.F.R. 1.10 on the date indicated above and is addressed to Mail Stop Patent Application, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on March 12, 2004.

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